1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

\*

'hello'

-87.8

-

/

6

Sol. Values are 🡪 'hello', -87.8, 6

Operators are 🡪 \*, -, /, +

Proper combination of operand and operators makes an expression, which gives a single value.

2. What is the difference between string and variable?

Sol. String is a sequence of one or more characters. Its immutable sequence, written inside single quotes or double quotes. But variable is not written in single or double quotes. Unlike string, variable stores integers, string, Boolean, floating point etc….

3. Describe three different data types.

Sol. Integer (int) – Most common numeric datatype used to store number without fraction component

Floating point (float) – Numeric datatype used to store numbers that may have a fractional component

String (str or text) – Sequence of characters used to store text, includes digits and symbol, but its always treated as text.

4. What is an expression made up of? What do all expressions do?

Sol. An expression is a construct made up of **variables, operators, and method invocations**, which are constructed according to the syntax of the language, that evaluates to a single value. An expression is a combination of operators and operands that is interpreted to produce some other value.  **It** **evaluates to a single value**.

5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?

Sol. Expression evaluates to a single value, but statement does not do it.

6. After running the following code, what does the variable bacon contain?

bacon = 22

bacon + 1

Sol. 23

7. What should the values of the following two terms be?

'spam' + 'spamspam'

'spam' \* 3

Sol. Both of them gives same result - 'spamspamspam'

8. Why is eggs a valid variable name while 100 is invalid?

Sol. Because variable should not start with a number

9. What three functions can be used to get the integer, floating-point number, or string version of a value?

10. Why does this expression cause an error? How can you fix it?

'I have eaten ' + 99 + ' burritos.'

Sol. Its not possible to concatenate string with number. So 99 should be made a string, by comprising it within single quotes as shown below:

'I have eaten ' + '99' + ' burritos.'